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Cooperative measures to assess and increase awareness of environmental effects related to waste originating from chemical munitions dumped at sea

Report of the Secretary-General

Summary

In compliance with General Assembly resolution 65/149, the present report conveys views of Member States and relevant regional and international organizations on issues relating to the environmental effects related to waste originating from chemical munitions dumped at sea, as well as on possible modalities for international cooperation to assess and increase awareness of this issue. The information was drawn from responses of Member States and relevant regional and international organizations to the questionnaire circulated by the Secretariat on this topic.

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I. Introduction

1. The General Assembly, at its sixty-fifth session, adopted resolution 65/149 on cooperative measures to assess and increase awareness of environmental effects related to waste originating from chemical munitions dumped at sea. In the resolution, the Assembly noted the importance of raising awareness of the environmental effects related to waste originating from chemical munitions dumped at sea and invited the Secretary-General to seek the views of Member States and relevant regional and international organizations on issues relating to the environmental effects related to waste originating from chemical munitions dumped at sea, as well as on possible modalities for international cooperation to assess and increase awareness of the issue, and to communicate such views to the General Assembly at its sixty-eighth session for further consideration.

2. The present report was prepared in line with the above-mentioned General Assembly resolution. It offers a summary of reviews of Member States and relevant regional and international organizations on issues relating to the environmental effects related to waste originating from chemical munitions dumped at sea, and on possible modalities for international cooperation. All the information was drawn from responses of Member States and relevant regional and international organizations to the questionnaire circulated by the Secretariat on this topic.

II. Follow-up to resolution 65/149

3. Following the adoption of General Assembly resolution 65/149, in order to advance its implementation, Lithuania and Poland co-organized, on 5 November 2012 in Gdynia, Poland, the International Workshop on Environmental Effects Related to Waste Originating from Chemical Munitions Dumped at Sea. The event was attended by governmental representatives, experts and representatives of academic and research institutions, non-governmental organizations (NGOs) and the private sector.

4. Workshop participants discussed environmental, safety and security challenges and effects posed by waste originating from chemical munitions dumped at sea in various parts of the world, as well as national and international responses to them. The work by the Baltic Marine Environment Protection Commission (Helsinki Commission) was emphasized as an example of excellent regional cooperation that could be used in setting guidelines for other regions (see A/C.2/67/3).

5. It was reaffirmed by all participants that General Assembly resolution 65/149, inviting more coordination and further cooperation in sharing information on a voluntary basis and raising awareness on this subject, was very important for the whole process of environment protection. It was also emphasized that the resolution should serve as a tool to facilitate information-gathering in an inclusive manner with regard to chemical munitions dumped at sea, their impact on the environment and eventual effects on human health (ibid.).

6. After the Workshop, on 28 November 2012, the Permanent Representative of Lithuania to the United Nations sent a letter to the Secretary-General to which was annexed the summary of the Workshop (ibid.).

III. Responses of Member States and relevant regional and international organizations to the questionnaire

7. In compliance with General Assembly resolution 65/149, a questionnaire was circulated to all Member States and relevant regional and international organizations on 22 March 2013 for the purpose of collecting views on issues relating to the environmental effects related to waste originating from chemical munitions dumped at sea.

8. The Secretariat received responses to the questionnaire from the European Union and from 23 Member States (Bahrain, Chile, Costa Rica, Croatia, Cyprus, Estonia, France, Gabon, Georgia, Grenada, Guyana, Japan, Latvia, Lithuania, Malaysia, Mexico, New Zealand, Philippines, Poland, Qatar, Romania, Spain, and Turkey), the Office for Disarmament Affairs of the Secretariat, the International Maritime Organization (IMO), the World Health Organization (WHO), and the NGO International Dialogue on Underwater Munitions.

9. A summary of the views expressed in the above-mentioned responses is reflected in the following sections.[1]

A. Situation

1. Countries and regions with an environmental risk of waste originating from chemical munitions dumped at sea

10. Bahrain, Croatia, Grenada, Guyana, Latvia, Lithuania, Mexico, the Philippines, Poland, Qatar and the European Union explicitly stated that there was an environmental risk in their countries or region related to waste originating from chemical munitions dumped at sea.

11. The European Union indicated that some information was available on risks posed by waste originating from chemical munitions dumped at sea in various seas bordered by European Union member countries, and that the issue had been identified as a problem thus far, especially in the Baltic Sea and in the North-East Atlantic. More information on environmental challenges was available, for example, through the Helsinki Commission, based on the legally binding Convention on the Protection of the Marine Environment of the Baltic Sea Area (the Helsinki Convention). The Helsinki Commission had established an ad hoc expert group on dumped chemical munitions in 2010 that had drafted a report entitled "Update and Review of the Existing Information on Dumped Chemical Munitions in the Baltic Sea".[2]

12. In addition, the European Union indicated that the OSPAR Commission for the Protection of the Marine Environment of the North-East Atlantic, based on the legally binding Convention of the same name, had been studying the issue of dumped chemical and conventional munitions since 2000. In 2002, the Commission had published a report entitled "Overview of Past Dumping at Sea of Chemical Weapons and Munitions in the OSPAR Maritime Area" that had been updated in

[1] The views expressed are based on responses to the questionnaire and do not imply the expression of any opinion on the part of the Secretariat.

[2] See www.helcom.fi/environment2/hazsubs/en_GB/chemu/?u4_highlight=chemu.

2005 and 2010.[3] Details of the locations, types and quantities of materials dumped had been recorded in a database that was on the website of the Commission. In 2003, the Commission had agreed on recommendation 2003/2 on an OSPAR framework for reporting encounters with marine dumped conventional and chemical munitions in the OSPAR Convention area that had been subsequently replaced by updated recommendation 2010/20.[4] The recommendation requested the reporting of encounters with marine dumped chemical weapons and munitions that are recorded in the database. In 2004, the OSPAR Commission published an updated review of Convention-wide practices and procedures in relation to marine dumped chemical weapons and munitions, including guidelines for fishermen and other users of the sea and its coastline.[5] In 2008, the Commission published a report entitled "The Assessment of the Impact of Dumped Conventional and Chemical Munitions".[6] In 2009, the Commission published a report entitled "Implementation of OSPAR Recommendation 2003/2 Database on Encounters with Dumped Conventional and Chemical Munitions".[7]

13. Latvia stated that there existed an environmental risk for Latvia by chemical munitions dumped in the Baltic Sea. Information on environmental challenges can be obtained through the Helsinki Commission.[8]

14. Lithuania stated that part of the chemical munitions dump site in the Gotland Basin lies within the exclusive economic zone of Lithuania. The closeness of the area poses a potential risk for Lithuania to be affected by waste originating from chemical munitions dumped at sea. Chemical warfare agents, such as sulphur mustard, tabun and arsenic-containing substances, were designed to trigger severe biological effects with very small doses. All of them are extremely toxic to humans and other forms of life. In addition, in many cases, the degradation products show some degree of toxicity, while some compounds have the potential to be bioaccumulated by organisms within the food chain.

15. Poland indicated that, after the Second World War, more than 40,000 tons of munitions had been dumped in the Baltic Sea, mostly in the area east of Bornholm, south-east of Gotland, in the proximity of the Polish exclusive economic zone. It is likely that chemical munitions had also been dumped in the Gdansk Deep, off the Polish coast. There were also indications that some of the munitions had been thrown overboard during their transportation to various dump sites, although the amount is not known. Chemical munitions included mustard, lewisite, sarin, and tabun. When those toxic agents are exposed to seawater, they can react to form additional harmful substances. Lewisite, for example, could degrade to release arsenic near disposal sites.

16. Croatia stated that, in accordance with the initiative of the contracting parties to the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean (Barcelona Convention) at the thirteenth session of the Conference of the Parties to the Convention (Portorož, Slovenia, November 2005), the marine pollution assessment and control component of the United Nations

[3] See www.ospar.org/v_publications/download.asp?v1=p00519.

[4] See www.ospar.org/v_measures/get_page.asp?v0=10-20e_munitions.pdf&v1=4.

[5] See www.ospar.org/v_publications/download.asp?v1=p00185.

[6] See www.ospar.org/v_publications/download.asp?v1=p00365.

[7] See www.ospar.org/v_publications/download.asp?v1=p00439.

[8] See www.helcom.fi.

Environmental Programme Mediterranean Action Plan (UNEP/MAP) for the Barcelona Convention, in cooperation with the contracting parties, collected available country data on the dumping sites of ammunitions in the Mediterranean Sea. Based on the data, the report entitled "Ammunitions dumping sites in the Mediterranean Sea" was prepared in 2009. Croatia participated in the initiative by providing available data and locations of dumped ammunitions. Croatia considered the report a relevant document that reflected the state of environmental risk posed by the waste originating from chemical munitions dumped at sea in the Mediterranean Sea, including the Adriatic Sea.

17. Japan indicated that chemical munitions had been found at a seaport in Japan, and had been dumped by the then Japanese military around the end of the Second World War.

18. New Zealand answered that there were two known ocean dumping sites for chemical weapons in New Zealand. Chemical weapons had been dumped at those sites in 1946, following the end of the Second World War, and were from New Zealand's own stockpile of chemical mustard gas artillery shells and mortar bombs. However, the health hazards associated with those dumped chemical weapons was considered low. That position was in line with the findings of the 2003 report of the Australian Department of Defence entitled "Chemical Warfare Agent Sea Dumping off Australia", which was publicly available.

2. Environmental challenges and effects posed by waste originating from chemical munitions dumped at sea

19. Some States noted that the environment and health risks from waste originating from chemical munitions dumped at sea may be caused by their potential transport or discharge to surface or groundwater, release to air, and leaching to soil and bioaccumulation in the food chain.

20. Some States in the Baltic Sea Area emphasized that waste originating from chemical munitions dumped at sea created a potential risk for the bottom fauna and flora in this area. According to them, although the majority of the dump sites were situated in the deep water, with relatively low oxygen concentration and abundance of marine biota, they could become a source of contamination for both biota located in the dump sites in the upper and lower column during a mixing event, or for benthic biota in more shallow areas, due to the action of bottom currents. Possible challenges include adverse effects on fish stocks well-being, and transfer of contaminants via food chain from benthic animals to fish preying on them. Waste originating from chemical munitions dumped at sea presents a potential threat for fishing vessels and offshore wind farms. The countries estimated that the suspected dump site could interfere with future oil exploration, as submarine oil deposits were situated in the vicinity.

21. Some States in the Arabian Gulf area indicated that waste originating from chemical munitions dumped at sea could be a big threat to the fragile environmental resources in that area, and that its marine flora and fauna could be greatly affected in case of any controlled or uncontrolled dumping and disposal. Fishery was one of the important employment sources in the area. The Arabian Gulf was also a main source of drinking water where the seawater underwent the process of desalination. Any disposal of waste originating from chemical munitions dumped at sea would pose a great threat to an already vulnerable environmental situation.

22. Some small island developing States stressed that they depended heavily on marine and coastal resources for development. Materials dumped offshore or near to shore were carried around the world by oceanic currents. As a result such waste could create health and environmental problems, posed a challenge to the life of the marine diversity dwelling therein, and negatively impacted on the livelihood of artisanal fishers and large-scale commercial fishing groups. As it related to artisanal fishers, with the tidal seasons came the mixing of marine waters with fresh waters; thus, there was a risk to the quality of fresh water if the marine waters were contaminated.

23. The International Dialogues on Underwater Munitions estimated that, if a dump site was disturbed enough to cause some sort of release, this could decrease the fish stock by approximately 70 per cent.

3. Scientific research and findings on environmental effects related to waste originating from chemical munitions dumped at sea

24. The European Union reported that, in 2005, the European Commission had financed research on the issue through the Sixth Framework Programme project, entitled "Modelling of Ecological Risks Related to Sea-dumped Chemical Weapons".[9]

25. The Baltic Sea research project, entitled "Chemical Munitions, Search and Assessment" (CHEMSEA) was partly financed by the European Regional Development Fund.[10] The Institute of Oceanology of the Polish Academy of Sciences was the coordinator of the project. Lithuania, Finland, Germany and Sweden had also joined the project. The research included a survey of dump sites and characterization of pollution and environmental parameters within them. It also focused on the effects of waste originating from chemical munitions dumped at sea on marine biota. Results thus far showed a large dispersion of chemical weapon objects on the Gotland Deep dump-site area. Fish from dump sites were characterized by a higher frequency of diseases than those from control areas. Genotoxic effects and damage to cellular membranes had been observed in both fish and caged mussels exposed at the dump sites. Pollution of sediments in the vicinity of objects was under investigation. The magnitude and direction of bottom currents in the dump-site areas suggested that spreading of contaminated material to other areas of the Baltic Sea was entirely possible in the day-to-day current pattern and very likely during extreme events, such as the inflow of saline water from the North Sea.

26. A part of the chemical munitions dump site in the Gotland Basin within the western part of the Lithuanian exclusive economic zone was investigated within the framework of national Lithuanian projects. The aim was to determine whether chemical munitions had been dumped in the waters of the Lithuanian exclusive economic zone and to perform an environmental impact assessment by evaluating the conditions of the environment and biota in the area under investigation. The conclusion of the research was that water depth, north direction bottom water currents, bottom current velocities and bottom relief prevented chemical munitions from reaching the Lithuanian coast. Further studies would still be necessary to reach

[9] See http://mercw.org/

[10] See http://www.chemsea.eu/

unequivocal conclusions about the risk of leakage of chemical munitions at that dump site.

27. Croatia indicated that in the Mediterranean Sea region, activities conducted within the framework of UNEP/MAP have been concentrated mostly on mapping the officially recorded ammunitions dumping sites. In Croatia, the Ministry of Defence was responsible for holding the data on dumped ammunition sites in the area under the sovereignty and jurisdiction of Croatia. The Italian Central Institute for Maritime Scientific and Technological Research was engaged in the European Commission co-funded project entitled "RED COD", aimed at assessing effects and risks for the benthic ecosystems caused by leaking of persistent pollutants from dumped ammunitions in the Southern Adriatic Sea.

28. The French scientific community did not directly lead research on the issue but monitored it from a scientific and technical perspective. National institutes specialized in chemical issues, industrial chemistry, and terrestrial and marine pollution agencies were aware of the issue.

29. In Mexico, several institutions and universities had research programmes on Mexican seas. More work should be done to relate those programmes to waste originating from chemical munitions dumped at sea.

30. In Qatar, some research and studies had been conducted by the Ministry of Environment and the Qatar University Environmental Studies Center on the subject.

31. IMO indicated that the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter 1972 (the London Convention 1972), which entered into force in 1975, prohibited the dumping of "materials in whatever form (e.g., solids, liquids, semi-liquids, gases or in a living state) produced for biological and chemical warfare".[11] This regime had also been fully incorporated into the London Protocol 1996, which had entered into force in 2006 and would eventually replace the London Convention. However, the Convention (and Protocol) did not cover materials dumped before the entry into force of the Convention. The parties to the London Convention (and subsequently the parties to the London Protocol) were, however, aware that, in the 1980s to 1990s, parties to the Helsinki Convention had considered the issue of chemical warfare munitions that had been dumped in the Baltic Sea in the wake of the First and Second World Wars in some detail and had agreed to leave those munitions where they had been dumped.

32. The parties to the London Convention and the London Protocol had subsequently endorsed that policy and in the past had discussed the location of historical sites of obsolete munitions and had attempted to bring such information to the attention of fishers and mariners in all States parties to the London Convention and the London Protocol by publishing location information and providing advice regarding the handling of such munitions if found in nets. Some maps identifying known dump sites had also been made available in the Mediterranean Sea, Australia, New Zealand, the United Kingdom of Great Britain and Northern Ireland, the United States of America, and others. The International Hydrographic Organization included these in its charts.

33. In this context, IMO noted that the governing bodies of the London Convention and the London Protocol received advice on the scientific/technical

[11] Article IV (1) (a), juncto annex I, para. 7.

aspects of any issues related to the Convention and the Protocol from its scientific groups, which met annually, approximately six months before the meeting of the governing bodies.

B. Response to incidents

34. Poland reported that, since the 1950s, several incidents related to waste originating from chemical munitions dumped at sea had occurred in the Polish exclusive economic zone. Some of them were associated with the beaching of chemical weapons on the Polish Coast, and others with accidental catches of chemical weapons by fishermen. Decontamination of fishing vessels in contact with such waste had been done on several occasions, and decontamination of contaminated beaches had been performed after the chemical weapons beaching. Treatment of injured fishing personnel and tourists had been undertaken by the responsible units.

35. Croatia indicated that its most common experience regarding dumped ammunition was related to the deactivation and disposal of old underwater mines.

36. Other countries indicated that, to date, they had had no real experience in responding to incidents related to waste originating from chemical munitions dumped at sea.

37. On the question of the capacity of a country or region to respond to incidents related to waste originating from chemical munitions dumped at sea, Croatia, France, Japan, Mexico, the Philippines, Poland, Spain and Turkey, stated that they had the capacity to respond to such incidents, while other countries answered that they did not.

38. The European Union indicated that any country affected by an incident related to waste originating from chemical munitions dumped at sea could address a request for assistance to the Emergency Response Centre in the European Commission. The Centre was a 24-hour-a-day/7-day-a-week operational hub of the European Union Civil Protection Mechanism which facilitated cooperation in civil protection assistance interventions by pooling the resources and expertise of the 32 participating States.[12]

39. France, Japan, Lithuania, Mexico, Poland, Qatar, Spain, and Turkey stated that they had developed national action plans or built capacities to respond to incidents related to waste originating from chemical munitions dumped at sea.

40. For example, France had contingency plans in place to respond to chemical incidents whether they were from accidental or terrorist origin. Those plans described the organization of the various actors at the local and national level. Lithuania and Poland were actively participating in the CHEMSEA project, which aimed to prepare an action plan of response to the incidents related to waste originating from chemical munitions dumped at sea. In Turkey, in order to ensure preparedness of coastal facilities, risk assessment and emergency response plans had been prepared. In Qatar, people within the armed forces got training in dealing with chemical weapons. Japan had been investigating the chemical munitions, removing them and rendering them harmless once they were discovered, with cooperation

[12] See http://ec.europa.eu/echo/policies/disaster_response/mechanism_en.htm.

from a private company which had such expertise. The Philippines had increased its coordination with other countries that had built-in capacities and capabilities. Mexico had developed plans to cope with maritime incidents that jeopardized the environment. With more knowledge of the risk associated to waste originating from chemical munitions dumped at sea, those plans would be revised.

41. The European Union indicated that the CHEMSEA project would update the existing guidelines and develop them further in order to reduce potential threats to the environment and fishermen. The OSPAR Commission prepared the 2009 report as a framework for the development of national guidelines on what to do to reduce risk to fishermen and coastal users when munitions were encountered.[13]

42. Bahrain, Croatia, Cyprus, Guyana, Latvia, Malaysia and Romania stated that they had not prepared any national action plan or built-in capacity to respond to incidents related to waste originating from chemical munitions dumped at sea. However, they were interested in doing so or in joining international collaboration to exchange views regarding this in the future.

43. Chile, Costa Rica, Estonia, Gabon, Georgia, Grenada and New Zealand indicated that they did not have action plans with regard to response to incidents related to waste originating from chemical munitions dumped at sea, nor did they intend to have any in the near future, either because there was no demand for State policy based on historical information on the absence of dumped chemical munitions in their marine waters, or because they had never had any experience with that phenomenon and considered the action plan unnecessary.

44. IMO indicated that, under the London Convention and Protocol, dumping of waste in general required a permit, to be issued by the member State or contracting party.

45. In 1993, the contracting parties to the London Convention had agreed to prohibit the disposal at sea of industrial waste as from 1 January 1996 by adopting resolution LC.49(16). That resolution contained the necessary amendments to annexes I and II to the London Convention and those amendments had entered into force on 20 February 1994. Ammunitions were materials "generated by manufacturing and processing operations" and, once these become obsolete, they were regarded as "industrial waste" under the amendments mentioned above. With the adoption of resolution LC.51(16), contracting parties in 1993 had also agreed to extend the prohibition of sea disposal of high-level radioactive wastes or other radioactive matter in place since 1975, to henceforth cover sea disposal of all radioactive wastes or radioactive matter. Disposal at sea of ammunition containing depleted uranium was thus covered by a double prohibition. The consequence of those decisions was that authorities dealing with obsolete ammunition should in general find an acceptable option on land (i.e. safe disposal or destruction on land). In exceptional cases, contracting parties could invoke article V (2) of the London Convention 1972, or article 8.2 of the London Protocol — the so-called "emergency procedure".

46. Some contracting parties, in their annual notifications of permits issued under the Convention and Protocol, occasionally reported to the Secretariat that permits had been issued for sea disposal of "useless explosives" or "obsolete ammunition".

[13] See http://qsr2010.ospar.org/en/ch09_09.html.

In other words, there was no uniform agreement among parties that those materials should not be dumped at sea.

47. WHO had built capacities to support countries, if requested, to respond to all types of chemical incidents and emergencies that overwhelmed national public health capacities and capabilities.[14] The International Health Regulations were an international legal instrument that was binding to all States members of WHO with the aim of helping the international community to prevent and respond to acute public health risks that had the potential to cross borders and threaten people worldwide, including chemical events.[15]

C. Raising awareness and other actions

48. Croatia, Estonia, France, Latvia, Lithuania, New Zealand, the Philippines, Poland and Qatar stated that their Governments provided information on waste originating from chemical munitions dumped at sea to civil society and industry or conducted activities to raise awareness on such waste.

49. Available information on existing disposal sites charted on the maps of the former Yugoslavia was published by the Croatian Hydrography Institute on nautical maps.

50. In Estonia, information on dumped chemical munitions in the Baltic Sea area was released when requested by the general public, industry or others.

51. In France, the specialized research institutes maintained their level of information by following the conferences on those issues and monitoring the scientific and technical literature.

52. According to the Helsinki Commission Guidelines, a national leaflet entitled "Fisheries and warfare agents: preventive measures and first aid" had been created and published by the Commission. The State Environmental Service of Latvia had distributed the leaflet to the crews of fisheries.

53. Over the past few years, Lithuania had hosted a few international conferences and workshops on waste originating from chemical munitions dumped at sea, presented the issue in various international organizations, and informed the public via the media. The events organized within this framework included: the fifteenth meeting of the Helsinki Commission's Monitoring and Assessment Group (Vilnius, Lithuania, 4-7 October 2011); an international seminar on environmental effects related to waste originating from sea-dumped chemical munitions (Vilnius, Lithuania, 20 September 2011); and the Institute of Electrical and Electronics Engineers/Oceanic Engineering Society Baltic 2012 International Symposium (Klaipeda, Lithuania, 8-11 May 2012). Moreover, a website had been created to facilitate discussion among different actors on the issue of chemical weapons

[14] See http://www.who.int/entity/phe/events/wha_66/flyer_chemical_incident2013.pdf.

[15] The text of the International Health Regulations is available from http://www.who.int/ihr/9789241596664/en/index.html. Further information about the Regulations is available from http://www.who.int/ihr/en/.

dumped at sea.[16] Lithuania also mentioned interviews given to the newspapers and radio.[17]

54. The Polish Government and other institutions provided information and raised awareness on waste originating from chemical munitions dumped at sea by direct actions and support to international projects and activities. In 2012 and 2013, a series of conferences on "Poland for the Baltic Sea", aimed at the sea users and local maritime administration, were organized by the Chief Inspectorate of Environmental Protection of Poland. Polish Officials raised the issue of waste originating from chemical munitions dumped at sea during interviews, official meetings and public debates. Information on waste originating from chemical munitions dumped at sea was available on the Chief Inspectorate of Environmental Protection web page. Polish representatives had presented the results of their research at a number of international and national conferences regarding problems related to waste originating from chemical munitions dumped at sea. Several publications had been issued in international and national journals. A series of training courses for fishermen had been held by the Polish Naval Academy, within the framework of the CHEMSEA project, with the support of scientists from the Institute of Oceanology of the Polish Academy of Sciences. A number of national television broadcasts had been done, originating both from the Government and the CHEMSEA project. A documentary related to waste originating from chemical munitions dumped at sea was currently being assembled by GEORAMA TV for the Arte television channel.

55. The Government of Qatar provided information to military personnel in the training courses of the armed forces for the purpose of raising awareness among all military personnel about environmental pollution and environmental issues, including those related to chemical weapons and waste.

56. The Government of the Philippines had strict rules, particularly on the handling and storage of waste originating from chemical munitions dumped at sea. Industries which sought to renew business licences were required to go through a thorough inspection of their storage facilities, and should mandatorily follow the rules and other international and local codes. Awareness programmes were clustered based on the interest of the public and Government.

57. In New Zealand, the information on the two chemical weapon dumping sites was available to members of the public should they wish to see it.

58. IMO indicated that the London Convention and Protocol had an extensive outreach and capacity-building programme, which included all aspects of implementation of the Convention and the Protocol at the national level and in national legislation, as well as compliance monitoring and enforcement. The parties to the London Convention and Protocol had developed and published information for fishermen and mariners regarding known dump sites that provided advice regarding the handling of such munitions if found in nets.

59. Through the International Programme on Chemical Safety,[18] WHO worked to establish the scientific basis for the sound management of chemicals, and to strengthen national capabilities and capacities for chemical safety. Chemical safety

[16] http://www.seadumpedcw.org/

[17] See www.chemsea.eu/press.php.

[18] See www.who.int/ipcs/en/index.html.

was achieved by undertaking all activities involving chemicals in such a way as to ensure the safety of human health and the environment. It covered all chemicals, natural and manufactured, and the full range of exposure situations from the natural presence of chemicals in the environment to their extraction or synthesis, industrial production, transport, use and disposal (including, for example, some warfare agents). However, WHO did not currently have activities dedicated specifically to waste originating from chemical munitions dumped at sea.

60. Partnerships between the Government, industry and civil society on raising awareness, as well as reporting and monitoring of waste originating from chemical munitions dumped at sea had been developed in Bahrain, Latvia, the Philippines and Poland. For example, fishermen in Latvia had been invited to report to the State Environmental Service on dumped chemical munitions that had been caught. There was a standing cooperation in Poland between the scientific community (the Institute of Oceanology of the Polish Academy of Sciences, the Military University of Technology, and the Polish Naval Academy) and the Government (the Ministry of Foreign Affairs, the Ministry of Defence, and the Chief Inspectorate of Environmental Protection) with regard to waste originating from chemical munitions dumped at sea studies, development of international reports and dissemination of knowledge. The Philippines reported that the relevant governmental agencies maintained coordination with the industry and civil society to monitor any occurrence of waste originating from chemical munitions dumped at sea. The Government of Bahrain was in active partnership with the industry and civil society on a number of local infrastructure, development and environmental issues.

61. In addition, IMO indicated that the London Convention and Protocol had a network of partnerships with contracting parties, NGOs and industry.

D. Cooperation

1. Existing regional and international cooperation on waste originating from chemical munitions dumped at sea

62. The European Union cooperated with other States within the framework of different regional sea conventions, such as the Helsinki Convention and the Convention for the Protection of the Marine Environment of the North-East Atlantic.

63. The Helsinki Commission worked to protect the marine environment of the Baltic Sea from all sources of pollution through intergovernmental cooperation among Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Poland, the Russian Federation, Sweden and the European Community. The Helsinki Commission was the governing body of the Helsinki Convention. Currently, the Commission's ad hoc expert group on dumped chemical munitions was preparing a report that would provide updated and reviewed information on dumped chemical munitions in the Baltic Sea. The report would present available knowledge about dumping and recovery activities in the Baltic Sea, in particular reflecting recently found archive material and research findings, on the basis of which conclusions would be drawn.

64. Lithuania reported that the International Scientific Advisory Board on Dumped Chemical Weapons had been established under Lithuania's initiative and had started

its activities in 2010. The Board gathered world-renowned representatives of environmental organizations, scientists and researchers from Australia, Belgium, Canada, France, Japan, Lithuania, Poland, the Russian Federation, Sweden and the United States of America working in the fields of environmental protection and destruction of chemical weapons. It provided qualified scientific and technological information, evaluations and analytical recommendations regarding chemical weapons dumped at sea.

65. Lithuania and Poland reported that CHEMSEA was a flagship project of the Strategy for the Baltic Sea Region. It had been initiated in late 2011 and would last until early 2014. Poland was the coordinator of the project, which united 11 institutions from Finland, Germany, Lithuania, Poland and Sweden. It was a research project with an administrative component, and received support from maritime administration, ministries of environment and the militaries of partner States.

66. The issue of chemical weapons dumped at sea was also raised in the forum of the Organization for Prohibition of Chemical Weapons (OPCW). During the seventeenth session of the Conference of the States Parties to the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction (Chemical Weapons Convention), held from 26 to 30 November 2012 at The Hague, Poland and Lithuania had organized a side event on chemical weapons dumped at sea: recent developments.

67. A side event devoted to chemical weapons dumped at sea had been organized by Poland, together with Lithuania, the International Dialogue on Underwater Munitions and the International Scientific Advisory Board on Dumped Chemical Weapons at the margins of the Third Special Session of the Conference of the States Parties to Review the Operation of the Chemical Weapons Convention (8-19 April 2013, The Hague). The aim of the side event had been to promote the exchange of experience and information related to problems caused by chemical weapons dumped at sea and to encourage States to develop OPCW as a venue for voluntary cooperation among Governments, relevant industries, academia and the NGO community on that important subject.

68. In addition, at the Third Review Conference of the States Parties to the Chemical Weapons Convention, Bulgaria, Lithuania, Luxembourg and Poland had presented a joint working paper on broadening international cooperation on chemical weapons dumped at sea and on promoting OPCW as a forum for voluntary cooperation on that issue. Following the proposal, the issue of chemical weapons dumped at sea had been reflected in the final report of the Conference wherein it was stated that the Third Review Conference had noted the General Assembly resolution on cooperative measures to assess and increase awareness of environmental effects related to waste originating from chemical munitions dumped at sea, adopted at its sixty-fifth session by consensus, and had invited States parties to support voluntary sharing of information, raising-awareness and cooperation on the issue.

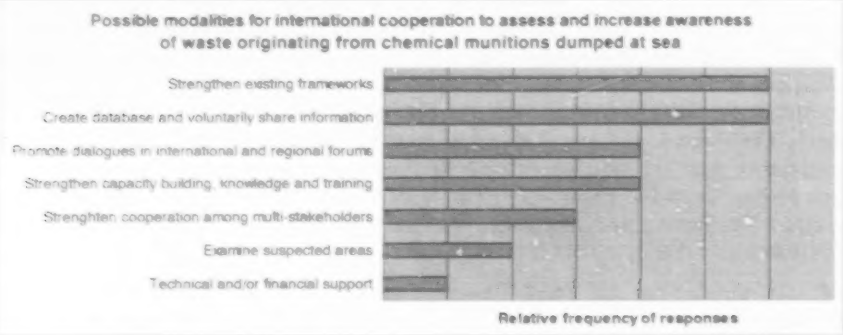
69. Croatia reported that the contracting parties to the Barcelona Convention had also cooperated in initiatives undertaken related to the issue of waste originating from chemical munitions dumped at sea.

70. Bahrain and Qatar reported that cooperation and coordination existed among all gulf countries through the Gulf Cooperation Council on all issues concerning environment and pollution, including the issue of chemical waste.

71. IMO reported that it had also cooperated actively with Governments, academia, NGOs and industry on issues within the mandate of the Convention/Protocol as well as on broad issues pertaining to other international instruments. For munitions containing radiological material, IMO worked with the International Atomic Energy Agency to identify "accidental" losses and historical disposal sites.

72. The International Dialogue on Underwater Munitions stated that it served as a non-governmental global forum for underwater munitions information exchange on the topics of policy, science, technology and economics of investing in marine resources. It was a body in which all stakeholders, including diplomats, Government departments, industry, fishermen, divers, oil and gas workers, and military, could come together to discuss, seek solutions and promote international teamwork on the issues related to underwater munitions. The third meeting of the International Dialogue on Underwater Munitions, held in Sopot, Poland, in 2011, focused on chemical munitions dumped at sea.

2. Possible modalities for international cooperation to assess and increase awareness of waste originating from chemical munitions dumped at sea


Possible modalities for international cooperation to assess and increase awareness of waste originating from chemical munitions dumped at sea
Strengthen existing frameworks
Create database and voluntarily share information
Promote dialogues in international and regional forums
Strengthen capacity building, knowledge and training
Strengthen cooperation among multi-stakeholders
Examine suspected areas
Technical and/or financial support
Relative frequency of responses

73. Some respondents supported the need to strengthen cooperation on waste originating from chemical munitions dumped at sea within existing frameworks, including regional seas conventions, and to continue international and regional projects and activities which relate to risk assessment, monitoring and environmental damage management related to waste originating from chemical munitions dumped at sea.

74. Some respondents suggested that consideration be given to creating a database on chemical munitions dumped at sea with voluntary shared information on, for example, dumping sites, recorded environmental impact, best practices of reaction after accidental encounter, and available technologies for destruction, paying specific attention to using and building upon, rather than duplicating, existing and ongoing work on the issue in the relevant regional seas conventions. OPCW could be a venue for voluntary sharing of information, raising awareness and cooperation on chemical weapons among the States parties, academia, industry and NGOs. Some

other respondents suggested that cooperation could be carried out through continuous survey by the United Nations.

75. Some respondents stated that there was a need to promote dialogue and broader engagement on the possible impact of chemical weapons dumped at sea within international and regional forums, conferences and meetings, or to organize side events on the margins of annual meetings or plenary sessions in relation to environmental threats. Some indicated that, since the issue of waste originating from chemical munitions dumped at sea was directly regulated under the London Convention and Protocol, it could be brought to the attention of the governing bodies of the Convention and the Protocol at the next meeting, to be held from 14 to 18 October 2013.

76. Some stressed that it was necessary to strengthen capacity-building through national and regional workshops, or by creating a series of capacity-building frameworks either online in all the official languages of the United Nations or face to face. Some stated that there was a need to further integrate research, administration and industry on waste originating from chemical munitions dumped at sea — both in terms of enhanced cooperation and knowledge exchange, and support to capacity-building programmes. Some expected that assistance would be provided in enhancing the knowledge on the subject, as well as imparting training to key staff. Some specifically suggested that cooperation could be carried out through: the conduct of training courses for those persons and organizations dealing with or responsible for such issues; the exchange of experience with international organizations and developed countries; and study tours to international organizations and institutions, which tackled the problem of chemical waste.

77. Some respondents emphasized that there was a need to enhance the involvement of all stakeholders, including States, relevant international organizations, such as OPCW, the United Nations Development Programme, UNEP, and the Office for Disarmament Affairs of the Secretariat, as well as public and private partners, to assess and increase awareness of waste originating from chemical munitions dumped at sea. It was considered that the international organizations should assist in addressing the risks identified by research activities and exchanging information with respect to chemical weapons dumped at sea, including risk of exposure to dumped chemical agents, for example, fishing crews, items washed ashore on beaches, risk of increased contamination of sea organisms, such as the teratogenic, carcinogenic and mutagenic potential of the multitude of agents. Some stated that there should be coordination in the United Nations to develop standards and policies with regard to waste originating from chemical munitions dumped at sea. Some suggested that this topic should be explicitly mentioned in the clean water strategy at both the international and country levels.

78. Some respondents stated that cooperation between countries or with international organizations to examine the suspected areas and gather information on possible chemical munitions discharges at sea could, with time, assist in preventing environmental effects related to waste originating from chemical munitions dumped at sea.

79. Some mentioned technical and/or financial support to developing countries which were affected by waste originating from chemical munitions dumped at sea, and proposed the creation of an international donor trust fund in that regard.